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CLAIMS

- 1. A block polymer comprised of a polyalkenyl ether main chain comprising:
 - a first block segment having hydrophobicity;
- a second block segment having an upper limit hydration temperature exceeding 70°C; and
 - a third block segment having an ionic property.
 - 2. A block polymer according to claim 1, wherein the second block polymer is represented by a following general formula (1):

-+A

(1)

$$O-(BO)_m-R^1$$

wherein A represents a unsubstituted or substituted

15 polyvinyl group; B represents a unsubstituted or

substituted linear or branched alkylene group with 1

to 15 carbon atoms; m represents an integer from 2 to

50; B is optionally different; and R¹ represents a

hydrogen atom, -CH₃ or -C₂H₅.

- 20 3. A block polymer according to claim 1, wherein the third block segment is a block segment showing anionic property.
 - 4. A block polymer according to claim 1, wherein the block segment represented by general formula (1) is represented by general formula (2):

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$$-(CH_2 - CH)$$

O- $(CH_2CH_2O)_n$ -R²

(2)

wherein n represents an integer from 2 to 50; and R^2 5 represents a hydrogen atom, $-CH_3$ or $-C_2H_5$.

5. A block polymer according to claim 1, wherein the first block segment is represented by general formula (3):

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wherein R³ is selected from a group consisting of a linear, branched or cyclic alkyl group with 1 to 18 carbon atoms, Ph, Pyr, Ph-Ph, Ph-Pyr, -(CH(R4)-CHR5)- $O)_p-R^6$ and $-(CH_2)_k-(O)_1-R^6$ in which a hydrogen atom in 15 the aromatic ring is optionally substituted by a linear or branched alkyl group with 1 to 4 carbon atoms and a carbon atom in the aromatic ring is optionally substituted by a nitrogen atom; p 20 represents an integer from 1 to 18; k represents an integer from 1 to 36; 1 represents 0 or 1; R4 and R5 each independently represents a hydrogen atom or CH3; R⁶ represents a linear, branched or cyclic alkyl group with 1 to 18 carbon atoms, Ph, Pyr, Ph-Ph, Ph-Pyr, -CHO, -CO-CH=CH₂, -CO-C(CH₃)=CH₂ or -CH₂COOR⁷ in 25 which a hydrogen atom in the aromatic ring is

optionally substituted by a linear or branched alkyl

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group with 1 to 4 carbon atoms, F, Cl or Br, and a carbon atom in the aromatic ring is optionally substituted by a nitrogen atom; R⁷ represents an alkyl group with 1 to 4 carbon atoms.

- 6. A block polymer according to claim 1, wherein the first block segment is comprised of a single repeating unit structure.
- 7. A polymer-containing composition comprising the block polymer according to claim 1, a solvent or .

 10 a dispersing medium, and a functional substance.
 - 8. A polymer-containing composition according to claim 7, wherein the functional substance is enclosed in the block polymer.
- 9. An ink composition comprising the polymer15 containing composition according to claim 7, wherein
 the functional substance is colorant.
 - 10. A liquid application method comprising the steps of:

preparing the polymer-containing composition 20 according to claim 7; and

applying the polymer-containing composition to a medium.

- 11. A liquid application apparatus comprising:
- a liquid application means which makes energy 25 act on the polymer-containing composition according to claim 7 to apply the composition; and
 - a drive means which drives the liquid

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application means.

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12. A head kit comprising:

a discharge head for discharging the ink composition and a container for containing the ink composition to be supplied to the discharge head.